



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

ES Windows, LLC
3550 NW 49 Street
Miami, FL 33142

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series "5100 Fixed Casement" Aluminum Fixed Window – L. M. I.

APPROVAL DOCUMENT: Drawing No. **W11-15**, titled "Series 5100 Aluminum Fixed Wdw. (L.M.I.)", sheets 1 through 7 of 7, dated 03/22/11, with revision E dated 06/14/16, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, **Barranquilla, Colombia S.A.**, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises and renews NOA# 15-0129.04** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Jorge Plasencia, P.E.**



[Signature]
09/22/2016

NOA No. 16-0922.02
Expiration Date: September 22, 2021
Approval Date: September 29, 2016
Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
(Submitted under NOA No. 11-0531.09)
2. Drawing No. **W11-15**, titled "Series 5100 Aluminum Fixed Wdw. (L.M.I.)", sheets 1 through 7 of 7, dated 03/22/11, with revision E dated 06/14/16, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of an aluminum fixed casement window, prepared by Fenestration Testing Laboratory, Inc., Test Reports No. **FTL-6294** and **FTL-6295**, dated 02/25/11 and 03/16/11 respectively, both signed and sealed by Marlin D. Brinson, P.E.
(Submitted under NOA No. 11-0531.09)

C. CALCULATIONS


1. Anchor verification calculations and structural analysis, complying with **FBC-5th Edition (2014)**, dated 10/28/14, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
(Submitted under NOA No. 15-0129.04)
2. Glazing complies with **ASTM E1300-09**

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **14-0916.10** issued to **Kuraray America, Inc.** for their "**Kuraray Butacite® PVB Glass Interlayer**" dated 06/25/15, expiring on 12/11/16.
2. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their "**SentryGlas® (Clear and White) Interlayer**" dated 06/25/15, expiring on 07/04/18.



Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
NOA No. 16-0922.02
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F. STATEMENTS

1. Statement letter of conformance, complying with **FBC-5th Edition (2014)**, and of no financial interest, dated 06/13/16, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
2. Laboratory compliance letter for Test Reports No. **FTL-6294** and **FTL-6295**, issued by Fenestration Testing Laboratory, Inc., dated 02/25/11 and 03/16/11 respectively, both signed and sealed by Marlin D. Brinson, P.E.
(Submitted under NOA No. 11-0531.09)
3. Proposal No. **10-0505** issued by Product Control, dated 06/29/10, signed by Manuel Perez, P. E.
(Submitted under previous NOA No. 11-0531.09)
4. Distributor Agreement between, E.S. Windows – Energia Solar S.A., Barranquilla, Colombia and E.S. Windows, LLC, Miami, Florida, U.S.A., dated 10/20/10, signed by Carla Garcia Torrente and by Andres Chamorro, respectively.
(Submitted under previous NOA No. 11-0531.09)

G. OTHERS

1. Notice of Acceptance No. **15-0129.04**, issued to ES Windows, LLC, for their Series “5100 Casement” Aluminum Fixed Window - L.M.I., approved on 05/14/15 and expiring on 09/22/16.



Jorge M. Plasencia, P.E.
Product Control Unit Supervisor
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SERIES 5100 **ALUMINUM FIXED WINDOW**

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER CHARTS SHOWN ON SHEETS 2.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF FIX./FIX. OR FIXED WITH SERIES 5000 CASEMENT WINDOWS USING MULLIONS IN BETWEEN. LOWER DESIGN PRESSURE FROM CASEMENT WINDOW, FIXED WINDOW OR MULLION CHART WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2014 (5TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

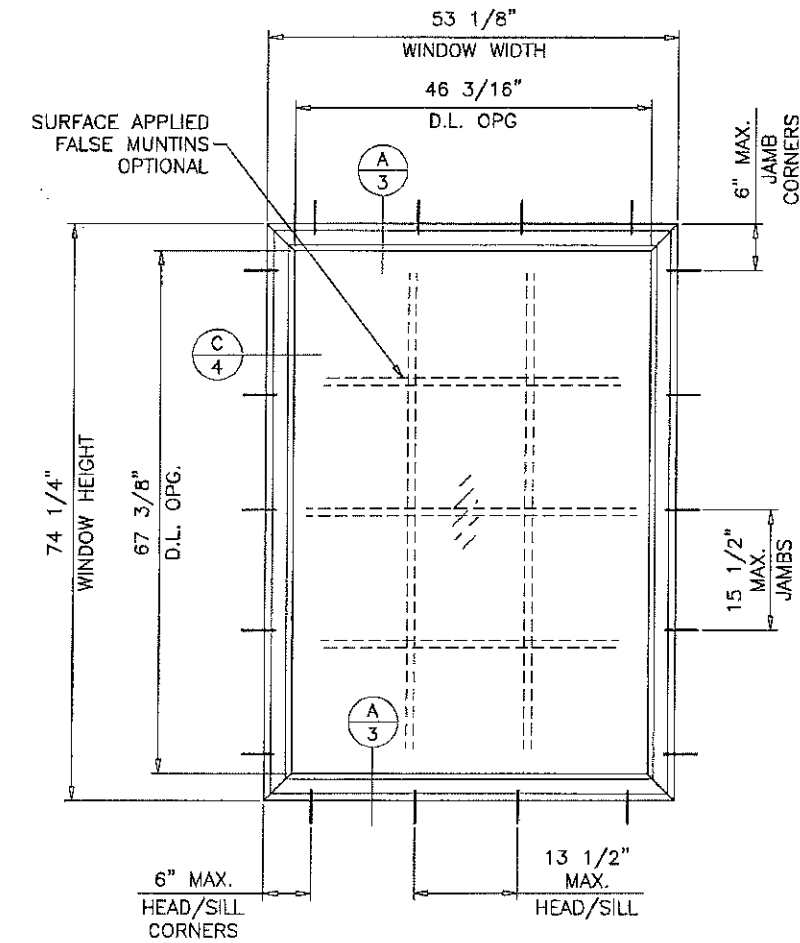
ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2014 FLORIDA BUILDING CODE & ADOPTED STANDARDS.



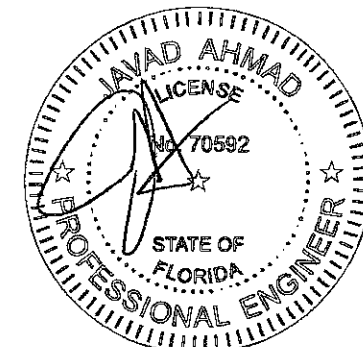
TYPICAL ELEVATION
TESTED UNIT

DAYLITE OPENINGS:
D.L.O. HEIGHT = WINDOW HEIGHT - 6.9375"
D.L.O. WIDTH = WINDOW WIDTH - 6.9375"

THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **16-0922.02**
Expiration Date **09/22/2021**
By *[Signature]*
Miami-Dade Product Control

JUL 01 2015



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W11-15ESW

SERIES 5100 ALUMINUM FIXED WDW. (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

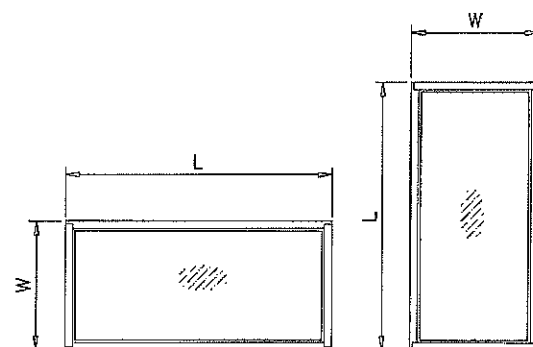
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B	02.20.12	UPDATED TO 2010 FBC	
C	10.29.14	UPDATED TO 2014 FBC	
D	05.06.15	REV. PER ENC COMMENTS	
E	06.14.16	EDITORIAL CHANGES	

date: 03-22-11
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

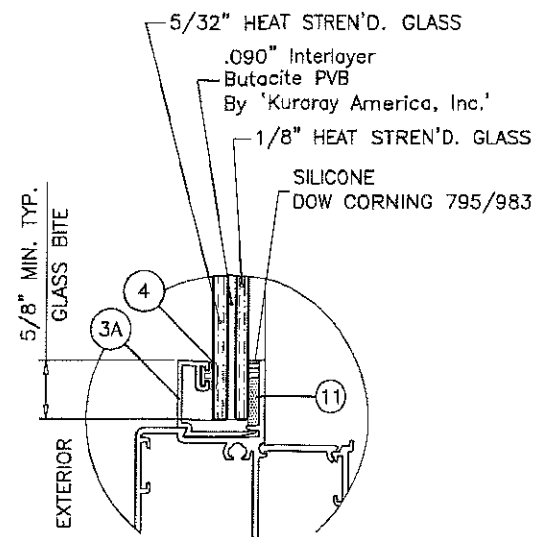
drawing no.
W11-15
sheet 1 of 7

DESIGN LOAD CAPACITY - PSF			
WINDOW DIMS.		GLASS TYPES 'C', 'D', 'E' & 'F'	
WIDTH (W)	LENGTH (L)	EXT.(+)	INT.(-)
24"	42"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
60"		90.0	90.0
62"		90.0	90.0
24"	48"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
60"		90.0	90.0
62"		90.0	90.0
24"	54"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
60"		88.5	88.5
62"		88.5	88.5
24"	60"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
60"		79.7	79.7
62"		79.7	79.7
24"	66"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
59"		81.0	81.0
24"	72"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
59"		81.0	81.0
24"	76"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
59"		81.0	81.0

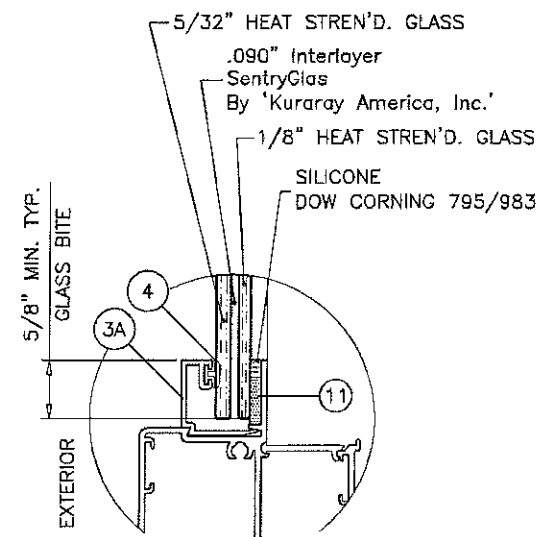
DESIGN LOAD CAPACITY - PSF			
WINDOW DIMS.		GLASS TYPES 'C', 'D', 'E' & 'F'	
WIDTH (W)	LENGTH (L)	EXT.(+)	INT.(-)
19-1/8"	26"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
62"		90.0	90.0
19-1/8"	38-3/8"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
62"		90.0	90.0
19-1/8"	50-5/8"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
62"		90.0	90.0
19-1/8"	63"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		77.1	77.1
62"		77.1	77.1
19-1/8"	74-1/4"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
62"		90.0	90.0
19-1/8"	76"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
51"		90.0	90.0
62"		90.0	90.0
62"		90.0	90.0



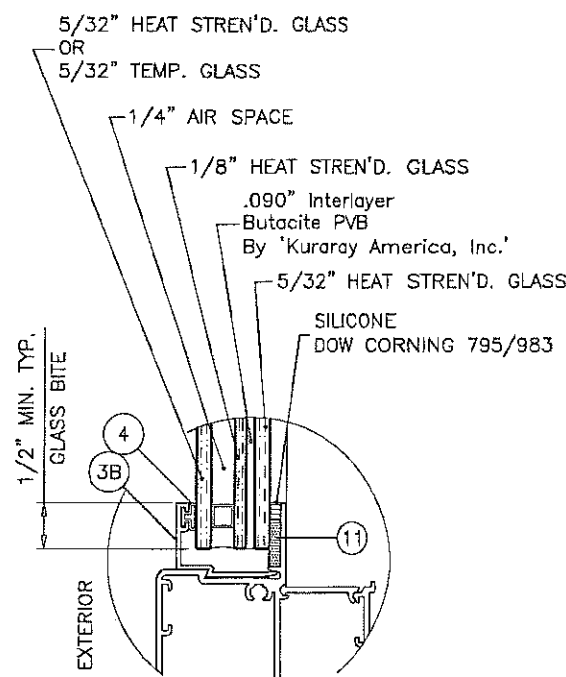
NOTE:
WIDTH AND LENGTH DIMENSIONS CAN BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN ABOVE.



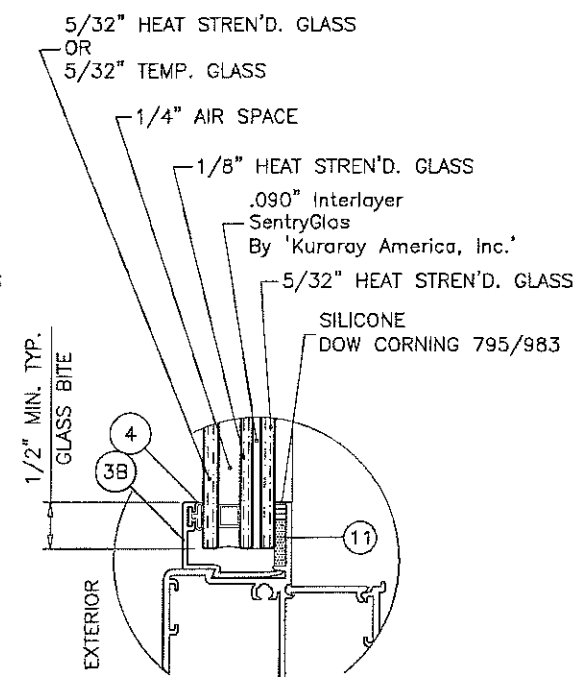
GLASS TYPE 'C'



GLASS TYPE 'D'



GLASS TYPE 'E'



GLASS TYPE 'F'

GLAZING OPTIONS

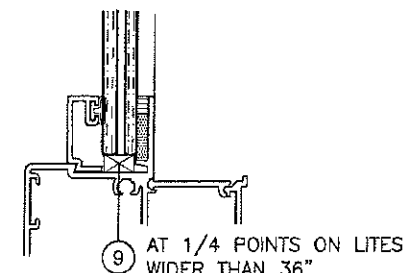
NOTE:
TO QUALIFY FOR SMALL MISSILE IMPACT RATING
EXTERIOR PLY OF GLASS TYPES 'E' & 'F' MUST BE TEMPERED.

PRODUCT REVISED
as complying with the Florida
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NOA-No. **16-0922.02**

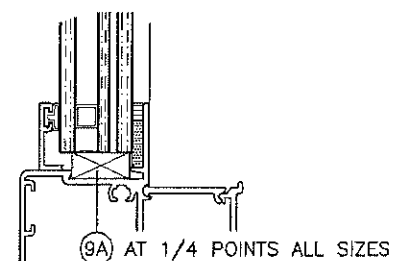
Expiration Date **09/22/2021**

By
Miami-Dade Product Control

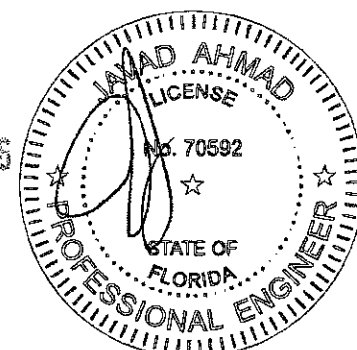
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS).



SETTING BLOCKS AT LAM. GLASS
NOTCH GLAZING BEAD LEG
TO CLEAR BLOCKS



SETTING BLOCKS AT INSUL. LAM. GLASS
NOTCH GLAZING BEAD LEG
TO CLEAR BLOCKS



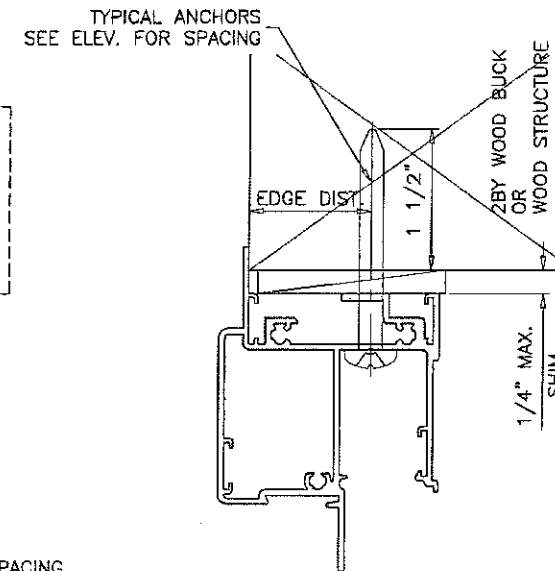
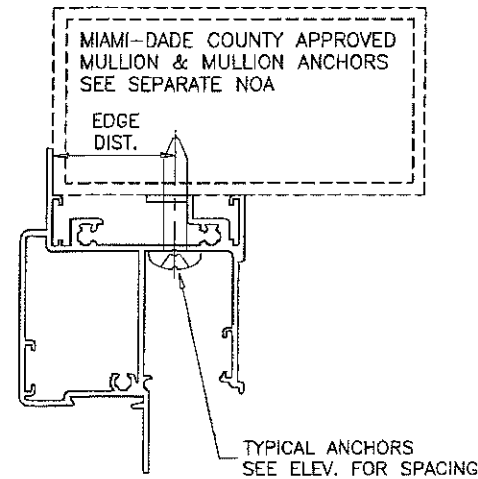
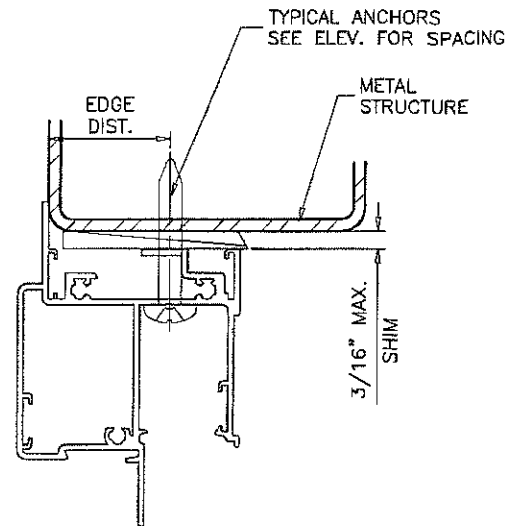
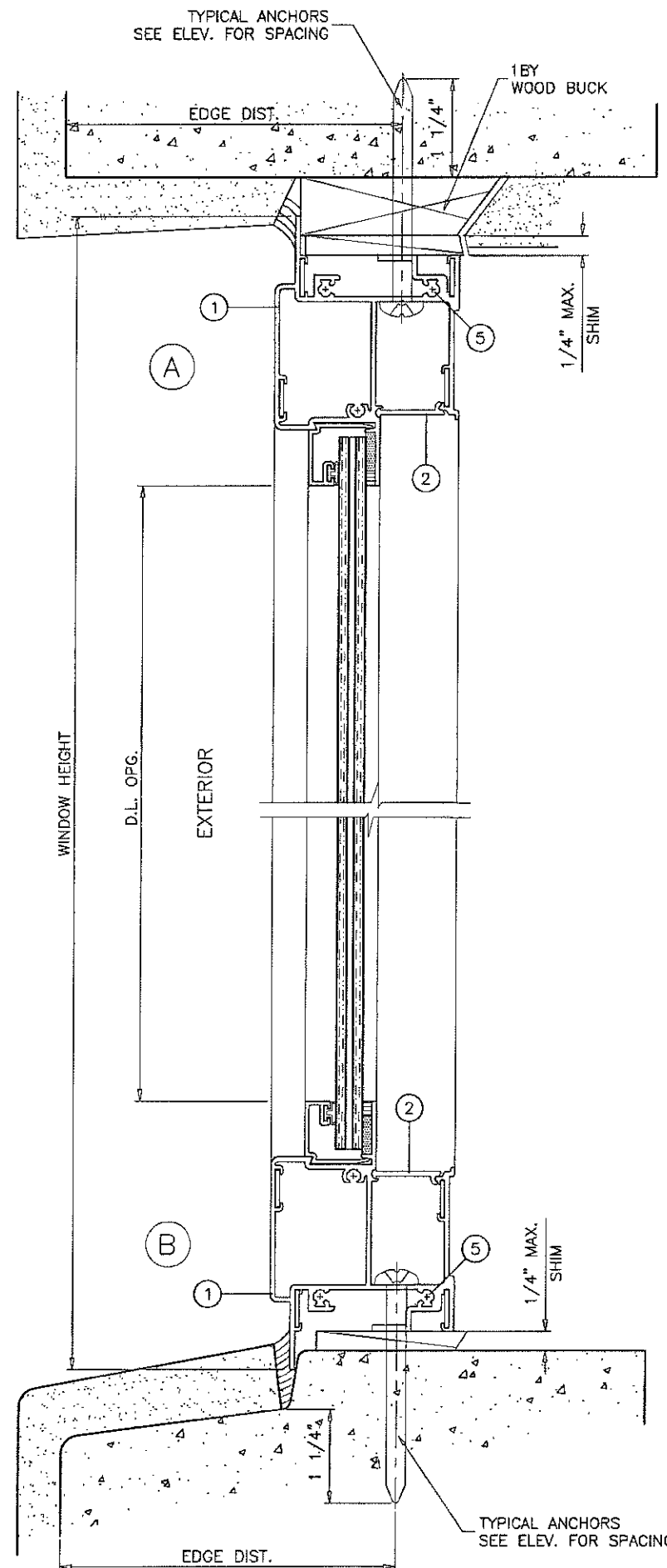
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W11-15SW

SERIES 5100 ALUMINUM FIXED WDW. (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL 33142
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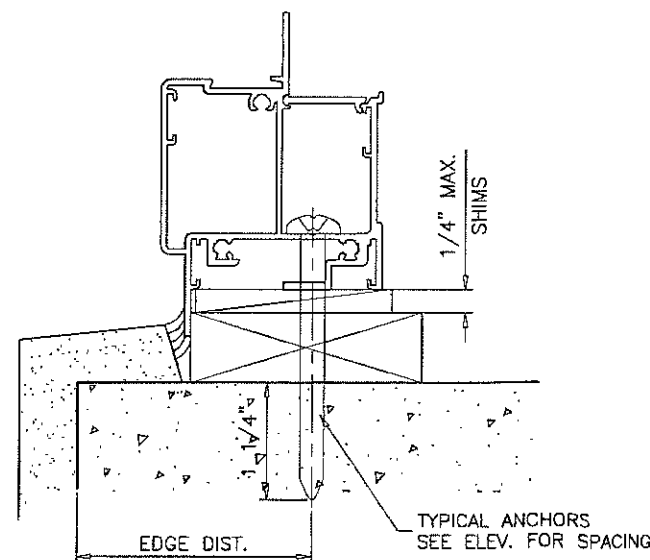
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A	08.03.11	REV. PER BNC COMMENTS	
B	02.20.12	GLAZING DETAIL REV.	
C	10.29.14	UPDATED TO 2014 FBC	
D	05.06.15	REV. PER RER COMMENTS	
E	05.14.16	EDITORIAL CHANGES	

date: 03-22-11
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

drawing no.
W11-15
sheet 2 of 7



WOOD BUCKS AND METAL STRUCTURE NOT BY E.S. WINDOWS MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. ULTRACON BY 'ELCO' ($F_u=177$ KSI, $F_y=155$ KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY BUCKS INTO CONC. OR MASONRY
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-1/4" MIN. EMBED INTO MASONRY (JAMBS)

DIRECTLY INTO CONC. OR MASONRY
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-1/4" MIN. EMBED INTO MASONRY (JAMBS)

#14 SMS OR SELF DRILLING SCREWS (GRADE 2 CRS)

INTO METAL STRUCTURES
 STEEL : 1/8" THK. MIN. ($F_y = 36$ KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

INTO MIAMI-DADE COUNTY APPROVED MULLIONS
 ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.) (NO SHIM SPACE)

TYPICAL EDGE DISTANCE

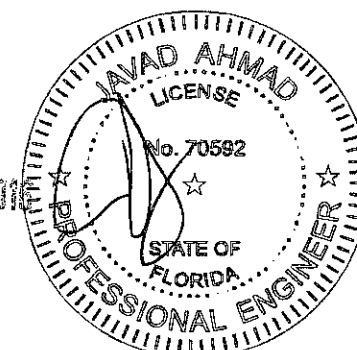
INTO CONCRETE AND MASONRY = 2" MIN.
 INTO WOOD STRUCTURE = 1" MIN.
 INTO METAL STRUCTURE = 3/4" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
 CONCRETE AT HEAD, SILL OR JAMBS $f'_c = 3000$ PSI MIN.
 C-90 HOLLOW/FILLED BLOCK AT JAMBS $f'_m = 2000$ PSI MIN.

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By 
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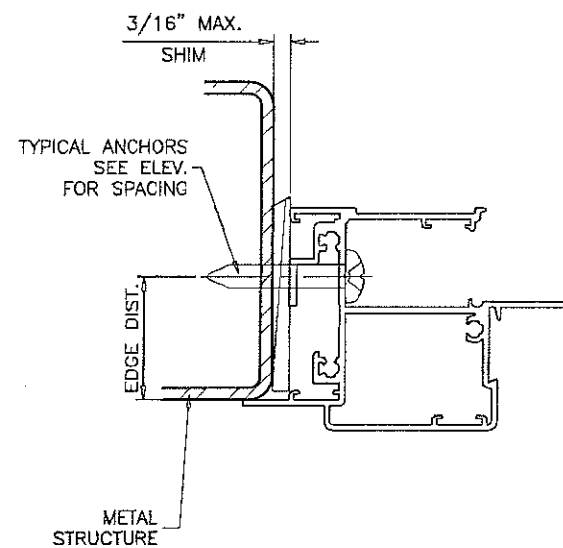
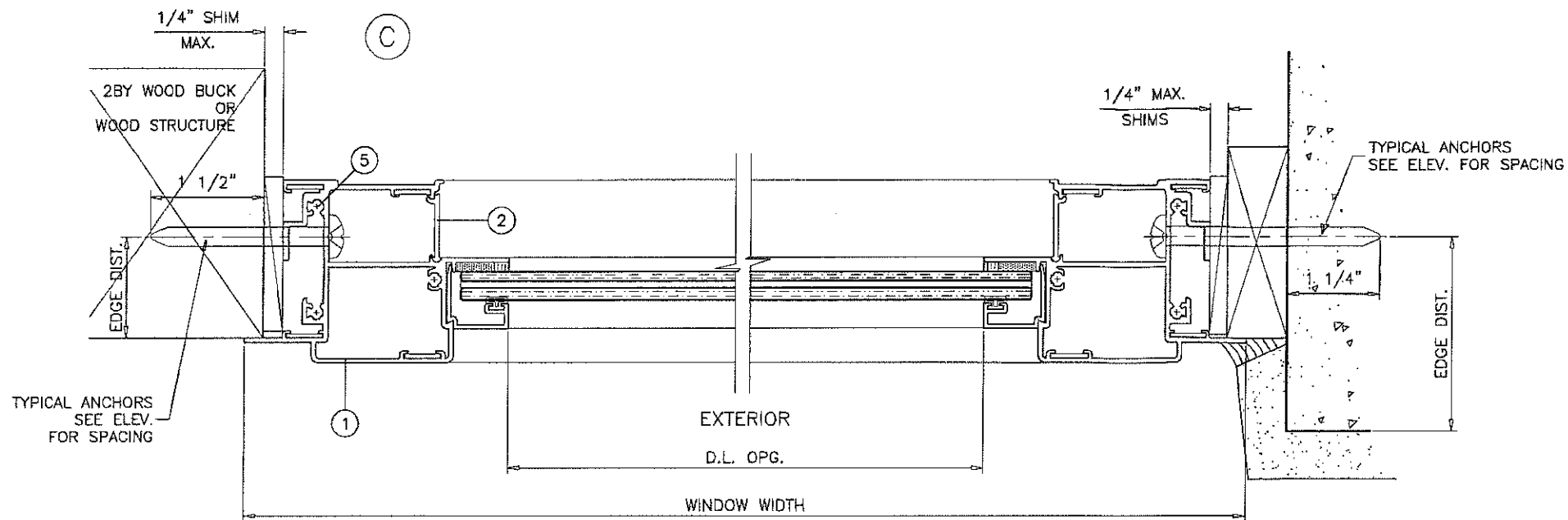
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COMP-ANL\W11-15ESW

no	date	by	description
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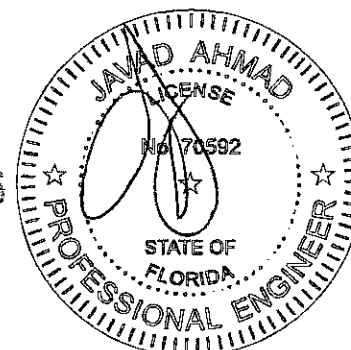
drawing no.
W11-15
 sheet 3 of 7



PRODUCT REVISED
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By *[Signature]*
 Miami-Dade Product Control

JUL 01 2018



AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
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 MIAMI, FLORIDA 33173 (C.A.N. 3538)
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COMP-ANI\W11-15ESW

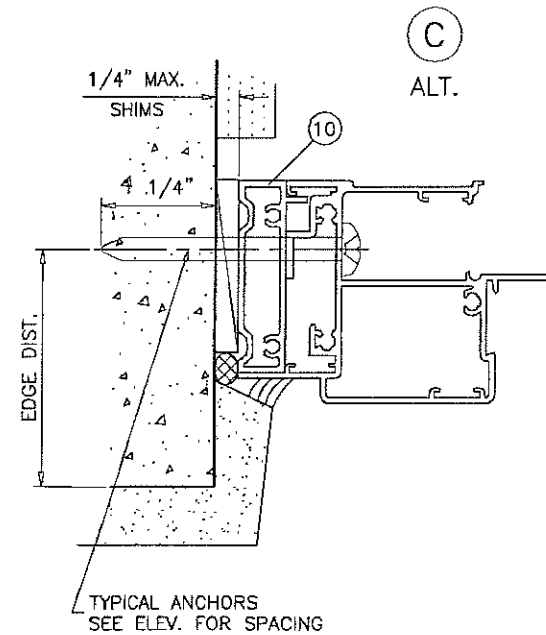
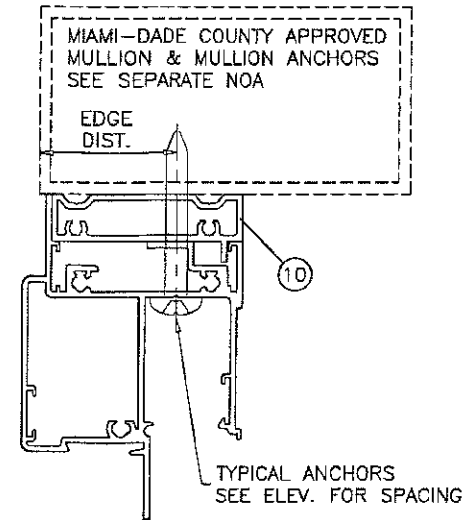
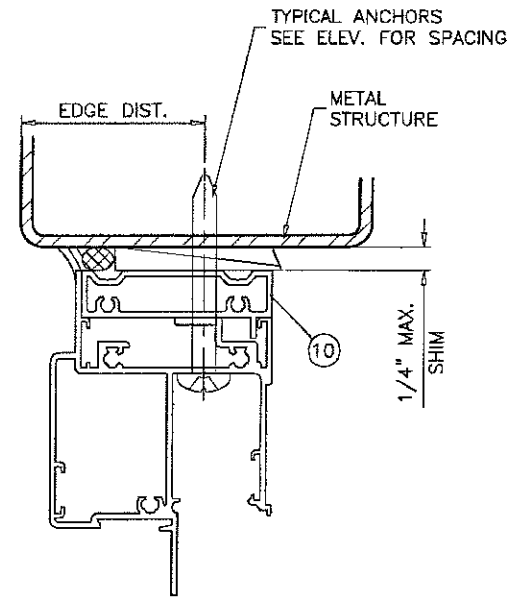
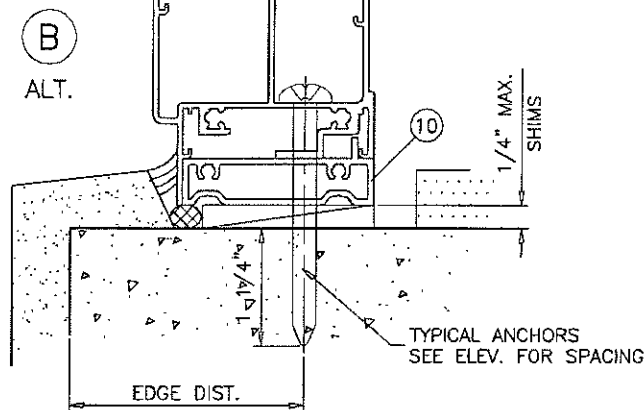
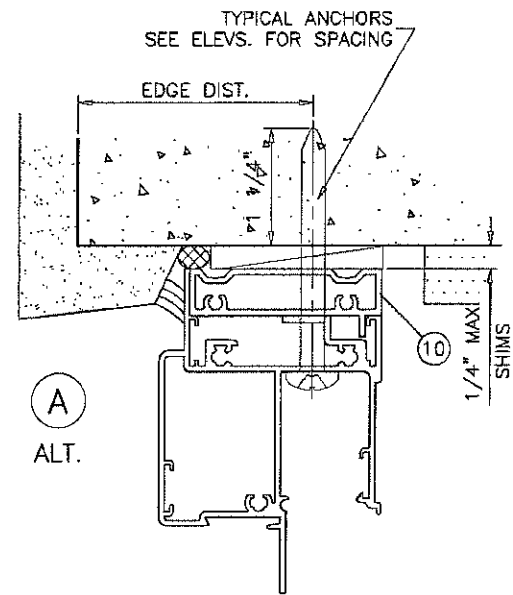
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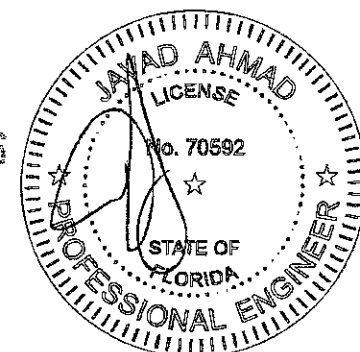
no	date	by	description
A	08.03.11		NO CHANGE THIS SHEET
B	02.20.12		GLAZING DETAIL REV.
C	10.29.14		NO CHANGE THIS SHEET
D	05.06.15		REV. PER RER COMMENTS
E	06.14.16		EDITORIAL CHANGES

date: 03-22-11
 scale: 1/2" = 1"
 dr. by: TARIQ
 chk. by:

drawing no.
W11-15
 sheet 4 of 7



PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **16-0922.02**
Expiration Date **09/22/2021**
By 
Miami-Dade Product Control



INSTALLATION DETAILS WITH FLUSH FRAME ADAPTER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W11-15ESW

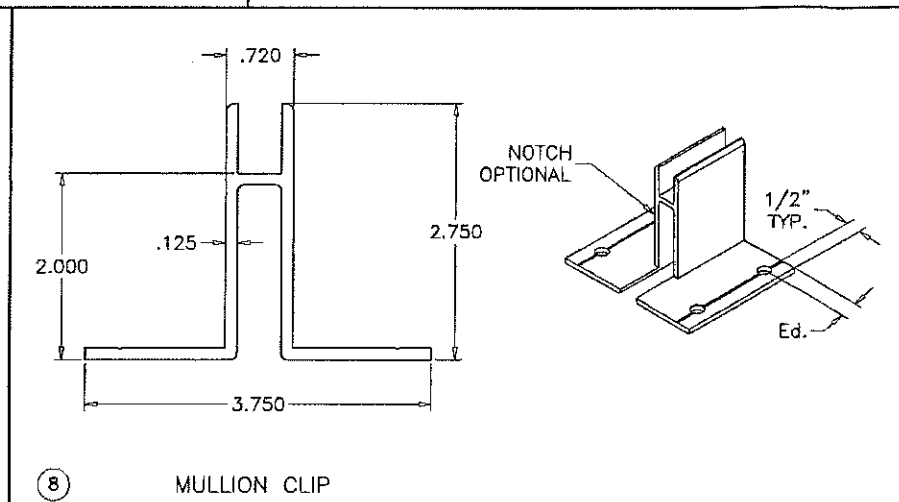
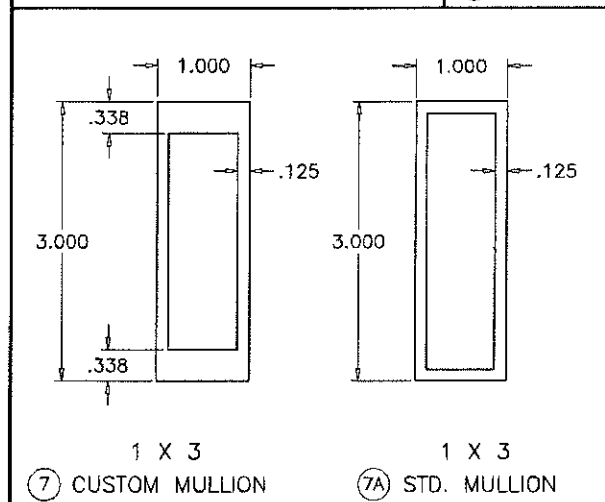
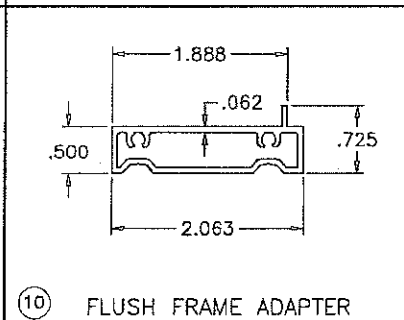
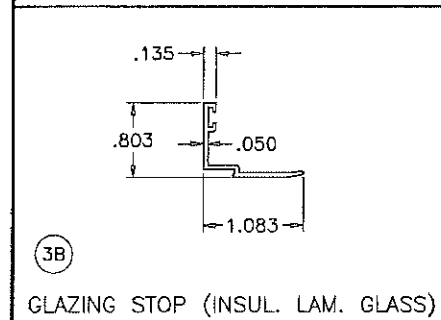
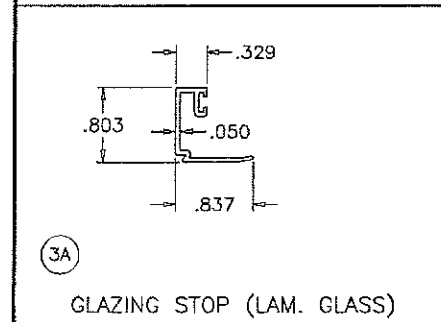
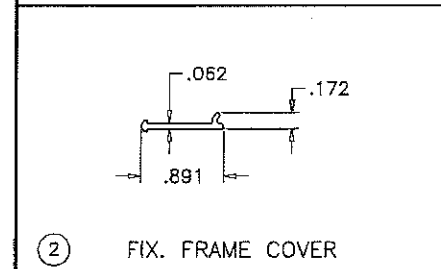
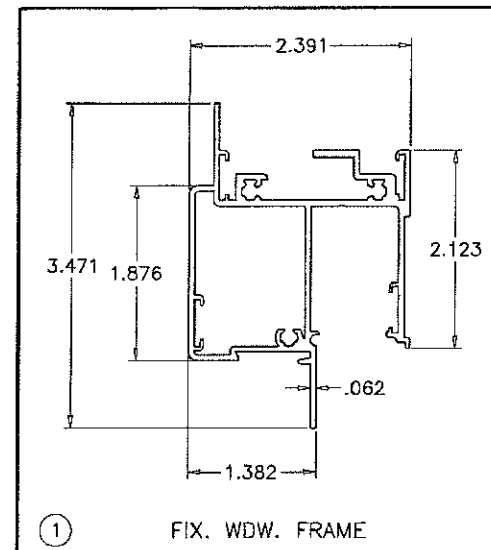
SERIES 5100 ALUMINUM FIXED WDW. (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

NO	DATE	BY	DESCRIPTION
A	08.03.11	REV. PER BNC COMMENTS	
B	02.20.12	NO CHANGE THIS SHEET	
C	10.29.14	NO CHANGE THIS SHEET	
D	05.06.15	REV. PER RER COMMENTS	
E	06.14.16	EDITORIAL CHANGES	

date: 03-22-11
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

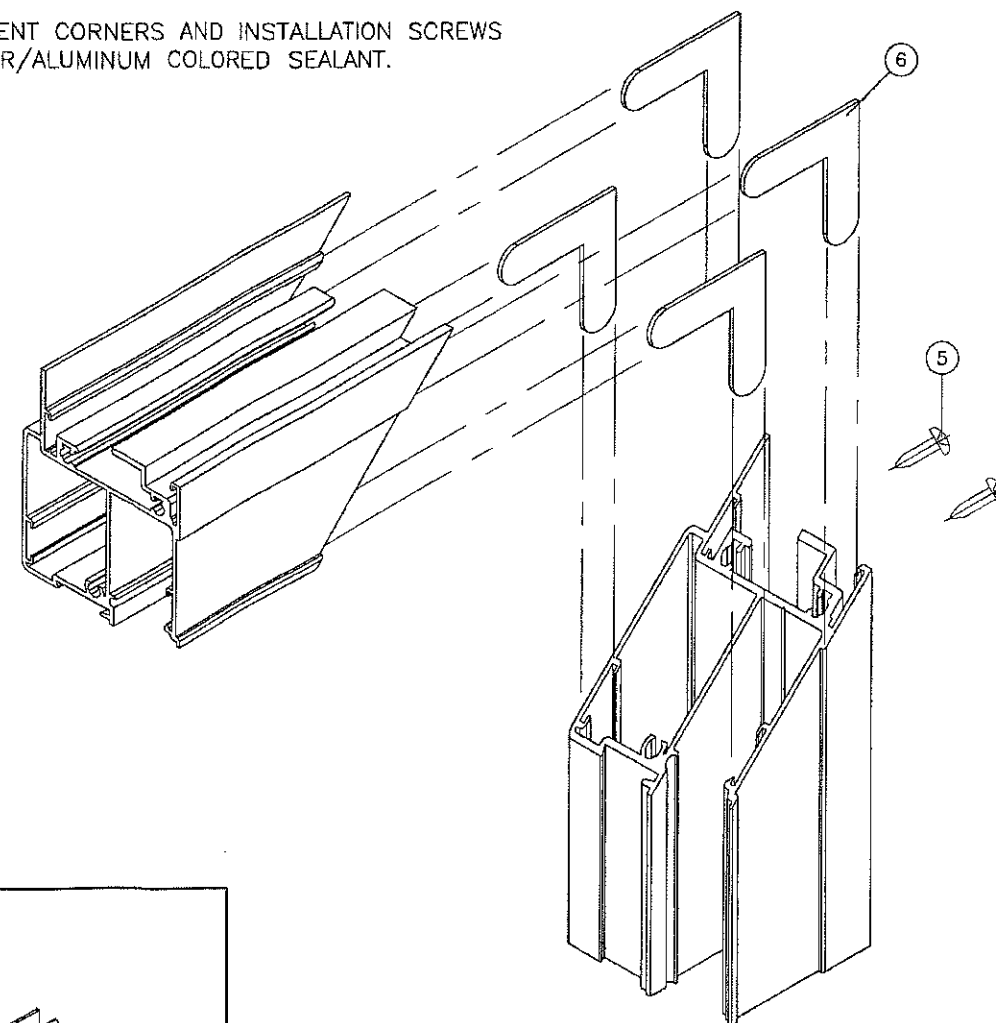
drawing no.
W11-15
sheet 5 of 7



ITEM	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ES5015	4	FIX. WDW. FRAME	6063-T6	-
2	ES5016	4	FIX. FRAME COVER	6063-T6	-
3A	ES1103	AS REQD.	GLAZING BEAD (LAM. GLASS)	6063-T5	-
3B	ES1017	AS REQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T5	-
4	27-425	AS REQD.	GLAZING GASKET	EPDM	DUROMETER 60 SHORE 'A'
5	-	AS REQD.	FRAME ASSEMBLY SCREWS	-	#10 X 1" PH SMS
6	PJS40-SS	AS REQD.	CORNER LOCK	ST. STEEL	SULLIVAN & ASSOCIATES
7	-	AS REQD.	1X3 CUSTOM MULLION	6063-T6	-
7A	-	AS REQD.	1X3 STANDARD MULLION	6063-T6	-
8	-	AS REQD.	MULLION CLIP	6063-T6	-
9	27-372	2/ LITE	SETTING BLOCK, 7/16" X 3/16" X 3-1/2" LONG	EPDM	AT 6" FROM EACH END, DUROMETER 75±5 SHORE A
9A	-	2/ LITE	SETTING BLOCK, 5/16" X 5/8" X 4" LONG	EPDM	AT 6" FROM EACH END, DUROMETER 75±5 SHORE A
10	ES-5017	AS REQD.	FLUSH FRAME ADAPTER	6063-T5	OPTIONAL
11	-	AS REQD.	GLAZING TAPE (1/4" X 1/2")	FOAM	-

SEALANTS:

ALL FRAME AND VENT CORNERS AND INSTALLATION SCREWS SEALED WITH CLEAR/ALUMINUM COLORED SEALANT.

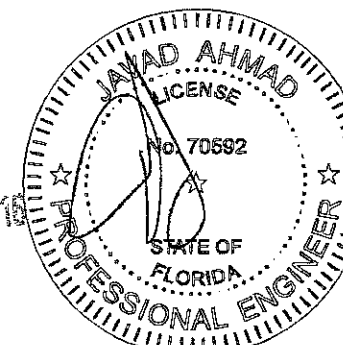


FRAME CORNER

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Expiration Date **09/22/2021**

By *[Signature]*
Miami-Dade Product Control



af c
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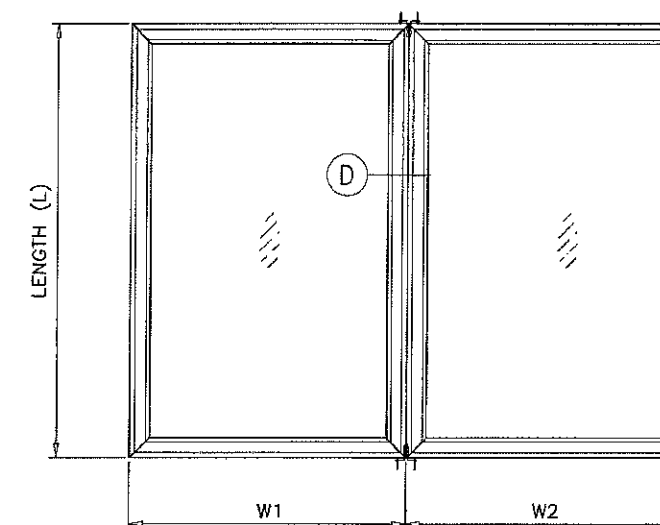
no.	date	by	description
A	08.03.11	REV. PER BNC COMMENTS	
B	02.20.12	GLAZING TAPE ADDED	
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date: 03-22-11
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drawing no.
W11-15
sheet 6 of 7

MULLION LOAD CAPACITY - PSF			
WINDOW DIMS.		1 X 3 STD. MULL	1 X 3 CUSTOM MULL
WIDTH (W)	LENGTH (L)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
26-1/2"	58"	90.0	90.0
37"		90.0	90.0
42"		90.0	90.0
45"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
26-1/2"	63"	90.0	90.0
37"		90.0	90.0
42"		90.0	90.0
45"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
26-1/2"	74-1/4"	90.0	90.0
37"		90.0	90.0
42"		82.5	90.0
45"		78.6	90.0
48"		75.4	87.4
53-1/8"		71.0	83.2
26-1/2"	76"	90.0	90.0
37"		84.2	90.0
42"		76.4	90.0
45"		72.8	87.6
48"		69.7	84.5
51"		67.1	81.9

MULLION LOAD CAPACITY - PSF			
WINDOW DIMS.		1 X 3 STD. MULL	1 X 3 CUSTOM MULL
WIDTH (W)	LENGTH (L)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
30"	54"	90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
60"		90.0	90.0
62"		90.0	90.0
30"	60"	90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
60"		90.0	90.0
62"		90.0	90.0
30"	66"	90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
59"		90.0	90.0
30"	72"	90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		83.6	90.0
54"		78.4	85.8
60"		73.2	81.6
30"	76"	90.0	90.0
36"		86.1	90.0
42"		76.4	90.0
48"		69.7	84.5
51"		67.1	81.9
54"		64.5	79.5

CLIPPED MULLIONS

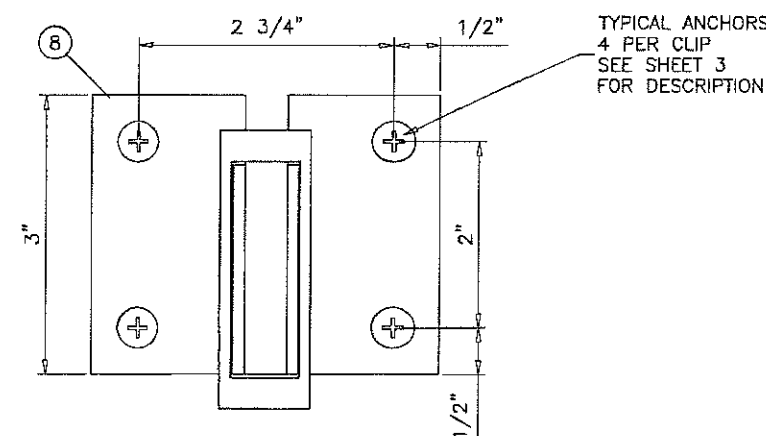


TYPICAL ELEVATION

SIDE BY SIDE WINDOWS

SIDE BY SIDE APPLIES TO TWO OR MORE WINDOWS

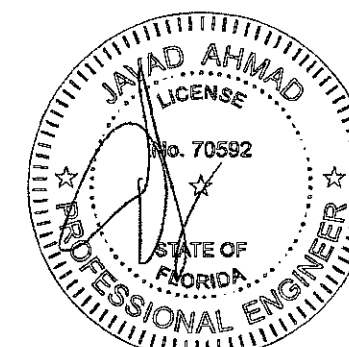
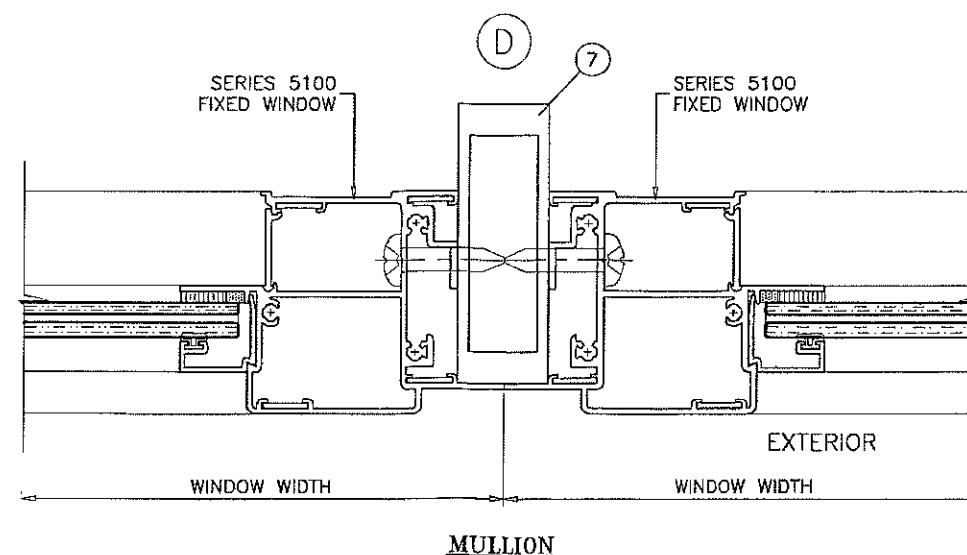
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



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